

**APPENDIX A – Mark-Up Copy  
TC 05-04**

**AN ORDINANCE TO AMEND THE DURHAM UNIFIED DEVELOPMENT  
ORDINANCE TO INCORPORATE FLOOD DAMAGE PROTECTION  
STANDARDS**

**SECTION 1**

**WHEREAS**, the [Durham City Council/Board of County Commissioners] wishes to amend the Durham Unified Development Ordinance, and

**WHEREAS**, the National Flood Insurance program (NFIP) [44 CFR 60.3(d) and (e) and NC Session Law 2000-150, Senate Bill 1341 [NCGS 143.-215.51-.61] establish minimum criteria for flood damage protection; and

**WHEREAS**, amendment of the adopted Flood Damage Protection Ordinance for the [City of Durham/Durham County] is necessary to meet these minimum standards; and

**WHEREAS**, incorporation of amended flood damage protection standards into the Unified Development Ordinance will facilitate administration of these standards;

**NOW, THEREFORE**, be it ordained that the Unified Development Ordinance is amended to incorporate the following:

**SECTION 2**

*Amend Section 1.2.2.P as follows:*

- P. Protect the capacity of floodways and non-encroachment areas in order to prevent loss or damage to homes or property;

*Amend Section 1.10.1 as follows:*

**1.10.1 Violations Continue**

Any violation of previous zoning, subdivision, ~~or~~ sedimentation and erosion control or flood hazard ordinances will continue to be a violation under this Ordinance and be subject to penalties and enforcement under this Ordinance unless the use, development, or activity complies, in its entirety, with the provisions of this Ordinance.

*Add the following to Section 1.10.3:*

**C. Effect upon Outstanding Building Permits**

Nothing in Sec. 8.4, Floodplain and Flood Damage Protection Standards, shall require any change in the plans, construction, size, or designated use of any building, structure, or part thereof for which a building permit has been

granted by the Inspections Director, or designees, prior to the effective date of this ordinance; provided, however, that when construction is not begun under such outstanding permit within a period of six months subsequent to the passage of this ordinance, construction or use shall be in conformity with the provisions of this ordinance.

*Amend Section 2.10.4.B as follows:*

- B. Interpretations of matters related to Sec. 8.4, Floodplain and Flood Damage Protection Standards.

*Add the following to the table in Section 2.12:*

Application Permit	or	Sedimentation and Erosion Control Officer	Inspections Director	Planning Director	Development Review Board	Historic Preservation Commission	Board of Adjustment	Planning Commission	Governing Body	Section
Inspections Action	Director									
<u>Floodplain Development Permit</u>			<u>D</u>	<u>R</u>						

*Amend Section 3.1.1.A as follows:*

- A. When uncertainty exists, the Planning Director or designee shall be authorized to make all interpretations concerning the provisions of this Ordinance ~~with the exception of the sections listed below~~ in making these interpretations all provisions shall be:
1. Considered as minimum requirements;
  2. Liberally construed in favor of the governing body; and
  3. Deemed neither to limit nor repeal any powers granted under State statutes.

*Add the following to Section 3.1.1.B:*

The Planning Director shall not make interpretations of the following sections:

2. Sec. 8.4, Floodplain and Flood Damage Protection Standards, the Inspections Director, acting as the Floodplain Administrator, or designee, in consultation with the Planning Director, shall be authorized to make all

interpretations related to this section.

*Delete Section 3.1.1.B.5 and add the following as Section 3.1.1.C:*

**C. Other Sections**

The Planning Director may defer interpretations of additional sections of this Ordinance to appropriate City and/or County officials.

*Add the following to Section 3.2.1:*

**P. Floodplain Development Permit**

*Add the following to Section 3.6.6.C:*

9. Within Special Flood Hazard Areas: demonstration that the subdivision will minimize flood damage through the location and construction of all public utilities and facilities, including water and sewer systems; adequate drainage in accordance with adopted standards to reduce exposure to flood hazards.

*Amend Section 3.15.1.D as follows:*

- D. No variance shall be granted that would have the effect of allowing a use not permitted in the use table in Sec. 5.1, Use Table, or by Sec. 8.4, Floodplain and Flood Damage Protection Standards.

*Amend Section 3.15.10.A as follows:*

4. That the variance would not result in significant degradation of water quality, loss of significant wetlands, increase in sedimentation and erosion, increase in stormwater runoff, loss of significant plant and wildlife habitat, increase in flood heights, or threats to public safety, extraordinary public expense or cause fraud on or victimization of the public.

*Add the following to Section 3.15.10:*

**C. Special Flood Hazard Areas**

**1. Limitation**

- a. The Board of Adjustment shall not issue variances within any designated floodway or non-encroachment area if any increase in flood levels within the base flood discharge would result unless FEMA has authorized conditional approval of the proposed encroachment via a Conditional Letter of Map Revision (CLOMR).
- b. If the Board of Adjustment approves a variance to permit elevation of a building rather than use of fill in Zone AE or Zone X (Future), the

variance shall specify the minimum foundation opening requirements as determined by the Floodplain Administrator, or designee, and state limitations of below BFE enclosure uses (if applicable). (i.e., Parking, Building Access and Limited Storage only).

## **2. Additional Considerations**

In passing upon variances, the appeal board shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this ordinance, and:

- a. the susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual property owner and others as a result of flood damage;
- b. the importance of the services provided by the proposed facility to the community;
- c. the necessity to the facility of a waterfront location, where applicable.
- d. the compatibility of the proposed use with existing and anticipated development;
- e. the safety of access to the property in times of flood for ordinary and emergency vehicles;
- f. the expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site;
- g. the costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, and streets and bridges; and
- h. the relationship of the proposed use to the comprehensive plan and floodplain management program for that area;

## **3. Procedures**

- a. An applicant for a variance within a Special Flood Hazard Area shall provide a written report addressing all required findings and considerations with the application.
- b. Whenever the Board of Adjustment approves a variance within a Special Flood Hazard Area, they shall provide the applicant with a written notice specifying the difference between the base flood elevation and the elevation to which the structure is to be built and a written statement that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced

floor elevation. Such written notification shall be maintained with the record of all such variances.

- c. The Inspections Director, or designee, acting as the Floodplain Administrator, shall maintain records of all variance actions and report on them to the Federal Emergency Management Agency upon request.

*Add the following to Article 3:*

## **3.22 Floodplain Development Permit**

### **3.22.1 Applicability**

A floodplain development permit shall be required in conformance with the provisions of this ordinance prior to the commencement of any development activities within Special Flood Hazard Areas and Future Conditions Flood Hazard Areas.

### **3.22.2 Floodplain Administrator**

#### **A. Designation**

The Inspections Director, or designee, shall serve as the Floodplain Administrator. For this purpose, the Inspections Director, or designee, shall receive training and certification from the Association of Floodplain Managers.

#### **B. Duties and Responsibilities**

Duties of the Floodplain Administrator shall include, but not be limited to:

1. Review all floodplain development applications and issue permits for all proposed development within Special Flood Hazard Areas and Future Conditions Flood Hazard Areas to assure that the requirements of this ordinance have been satisfied;
2. Advise permittees that additional Federal or State permits (i.e., Wetlands, Erosion and Sedimentation Control, Riparian Buffers, Mining, etc.) may be required, and if specific Federal or State permits are known, require that copies of such permits be provided and maintained on file with the floodplain development permit;
3. Notify adjacent communities and the North Carolina Department of Crime Control and Public Safety, Division of Emergency Management, State Coordinator for the National Flood Insurance Program prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency;
4. Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not

diminished;

5. Prevent encroachments within floodways and non-encroachment areas unless the certification and flood hazard reduction provisions of Sec. 8.4.3.E, Floodway and Non-Encroachment Areas, are met;
6. Obtain actual elevation (in relation to mean sea level) of the reference level (including basement) of all attendant utilities of all new or substantially improved structures, in accordance with the certification requirements in Sec. 3.22, Floodplain Development Permit;
7. Obtain the actual elevation (in relation to mean sea level) to which the new or substantially improved structures and all utilities have been floodproofed, in accordance with the certification requirements in Sec. 3.22, Floodplain Development Permit;
8. Obtain actual elevation (in relation to mean sea level) of all public utilities, in accordance with the certification requirements in Sec. 3.22, Floodplain Development Permit;
9. When floodproofing is utilized for a particular structure, obtain certifications from a registered professional engineer or architect in accordance with the certification requirements in Sec. 3.22, Floodplain Development Permit and Sec. 8.4.3, Standards;
10. Where interpretation is needed as to the exact location of boundaries of the Special Flood Hazard Areas or Future Conditions Flood Hazard Areas (for example, where there appears to be a conflict between a mapped boundary and actual field conditions), make the necessary interpretation. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this Article;
11. When Base Flood Elevation (BFE) data has not been provided in accordance with Sec. 8.4.2, Applicability, obtain, review, and reasonably utilize any Base Flood Elevation (BFE) data, along with floodway data and/or non-encroachment area data available from a Federal, State, or other source, including data developed pursuant to Sec. 8.4.3.C, Floodplains without Base Flood Elevations, in order to administer the provisions of this ordinance;
12. When Base Flood Elevation (BFE) data is provided but no floodway nor non-encroachment area data has been provided in accordance with Sec. 8.4.2, Applicability, obtain, review, and reasonably utilize any floodway data, and/or non-encroachment area data available from a Federal, State, or other source in order to administer the provisions of this ordinance;
13. When the lowest ground elevation of a parcel or structure located within Zone AE is above the Base Flood Elevation (BFE), advise the property

owner of the option to apply for a Letter of Map Amendment (LOMA) from FEMA. Maintain a copy of the Letter of Map Amendment (LOMA) issued by FEMA in the floodplain development permit file;

14. Permanently maintain all records that pertain to the administration of this ordinance and make these records available for public inspection;
15. Make on-site inspections of work in progress. As the work pursuant to a floodplain development permit progresses, the Floodplain Administrator shall make as many inspections of the work as may be necessary to ensure that the work is being done according to the provisions of the local ordinance and the terms of the permit. In exercising this power, the Floodplain Administrator, or designee, has a right, upon presentation of proper credentials, to enter on any premises within the jurisdiction of the community at any reasonable hour for the purposes of inspection or other enforcement action;
16. Issue stop-work orders as required. Whenever a building or part thereof is being constructed, reconstructed, altered, or repaired in violation of this ordinance, the Floodplain Administrator may order the work to be immediately stopped. The stop-work order shall be in writing and directed to the person doing the work. The stop-work order shall state the specific work to be stopped, the specific reason(s) for the stoppage, and the condition(s) under which the work may be resumed. Violation of a stop-work order constitutes a misdemeanor;
17. Revoke floodplain development permits as required. The Floodplain Administrator may revoke and require the return of the floodplain development permit by notifying the permit holder in writing stating the reason(s) for the revocation. Permits shall be revoked for any substantial departure from the approved application, plans, or specifications; for refusal or failure to comply with the requirements of State or local laws; or for false statements or misrepresentations made in securing the permit. Any floodplain development permit mistakenly issued in violation of an applicable State or local law may also be revoked;
18. Make periodic inspections throughout all Special Flood Hazard Areas within the jurisdiction of the community. The floodplain administrator and each member of his or her inspections department shall have a right, upon presentation of proper credentials, to enter on any premises within the territorial jurisdiction of the department at any reasonable hour for the purposes of inspection or other enforcement action;
19. Maintain a current map repository to include, but not limited to, the FIS Report, FIRM and/or other official flood maps/studies adopted under Sec. 8.4.2, Applicability, including any revisions thereto including Letters of Map Change, issued by the State and/or FEMA. Notify State and FEMA of mapping needs; and

20. Follow through with corrective procedures of Sec. 15.6; Floodplain and Flood Damage Protection Enforcement and Penalties.

### **3.22.3 Base Flood Elevations**

#### **A. Basis for Determination in Mapped Areas**

Base flood elevations shall be based upon the Flood Insurance Rate studies described in Sec. 8.4.2, Applicability, when such studies define a base flood elevation.

B. Development, including the construction of structures that only require building permits and land disturbing activity within Special Flood Hazard Areas, as identified by the Federal Emergency Management Agency in the most current Flood Insurance Rate Studies, which are hereby adopted by reference and declared to be a part of this section, shall be prohibited unless carried out pursuant to the general standards in Sec. 8.4.3, Standards, expressly authorized pursuant to Sec. 8.4.4, Development in Special Flood Hazard Areas, or allowed pursuant to a variance approved by the Board of Adjustment in accordance with Sec. 3.15, Variance.

#### **C. When Base Flood has not been Determined**

1. When base flood elevations have not been determined, the Inspections Director, or designee, acting as the Floodplain Administrator, may require FEMA accepted hydrologic and hydraulic engineering studies, or may obtain, review, and reasonably utilize any base flood elevation data and floodway or non-encroachment area data available from a Federal, State, or other source in determining the appropriate base flood elevation.
2. On small streams where no base flood data has been provided, no encroachments, including fill, new construction, substantial improvements or new development, shall be permitted within the setbacks established in Sec. 8.5, Stream Buffer Protection Standards, or Sec. 8.7, Watershed Overlay Protection Standards, or 20 feet each side from top of bank or five times the width of stream, whichever is greater.

### **3.22.4 Application Requirements**

A. Application for a floodplain development permit shall be made to the Floodplain Administrator, or designee, prior to any development activities proposed to be located within Special Flood Hazard Areas and Future Conditions Flood Hazard Areas. The following items/information shall be required as part of the application for a floodplain development permit:

1. A plot plan drawn to scale which shall include, but shall not be limited to, the following specific details of the proposed floodplain development:
  - a. the nature, location, dimensions, and elevations of the area of development/disturbance; existing and proposed structures, the



- location of utility systems, proposed grading/pavement areas, fill materials, storage areas, drainage facilities, and other proposed development;
  - b. the boundary of the Special Flood Hazard Area or Future Conditions Flood Hazard Areas as delineated on the FIRM or other flood map as determined in Sec. 8.4.2, Applicability, or a statement that the entire lot is within the Special Flood Hazard Area or Future Conditions Flood Hazard Areas;
  - c. flood zone(s) designation of the proposed development area as determined on the FIRM or other flood map as determined in Sec. 8.4.2, Applicability;
  - d. the boundary of the floodway(s) or non-encroachment area(s) as determined in Sec. 8.4.2, Applicability;
  - e. the Base Flood Elevation (BFE) or future conditions flood elevation where provided as set forth in Sec. 8.4.2, Applicability; Sec. 3.22.1.B (11 & 12), Duties and Responsibilities; or Sec. 8.4.3, Standards;
  - f. the old and new location of any watercourse that will be altered or relocated as a result of proposed development; and
  - g. preparation of the plot plan by or under the direct supervision of a registered land surveyor or professional engineer and certified by same.
2. Proposed elevation, and method thereof, of all development within a Special Flood Hazard Area or Future Conditions Flood Hazard Area including but not limited to:
- a. elevation in relation to mean sea level of the proposed reference level (including basement) of all structures;
  - b. elevation in relation to mean sea level to which any non-residential structure in Zone AE or Zone X (Future) will be flood-proofed; and
  - c. elevation in relation to mean sea level to which any proposed utility systems will be elevated or floodproofed.
3. If floodproofing, a floodproofing certificate and back-up plans from a registered professional engineer or architect certifying that the non-residential flood-proofed development will meet the flood-proofing criteria in Sec. 8.4.3, Standards.
4. A Foundation Plan drawn to scale which shall include details of the proposed foundation system to ensure all provisions of this ordinance are met. These details include but are not limited to:

- a. Proposed method of elevation, if applicable (i.e., fill, solid foundation perimeter wall, solid backfilled foundation, open foundation on columns/piers); and
  - b. Should solid foundation perimeter walls be used in Zones AE and Zone X (Future), details of sufficient openings to facilitate the unimpeded movements of floodwaters in accordance with Sec. 8.4.3, Standards.
5. Usage details of any enclosed space below the regulatory flood protection elevation;
  6. Plans and/or details for the protection of public utilities and facilities such as sewer, gas, electrical, and water systems to be located and constructed to minimize flood damage;
  7. Copy of all other Local, State and Federal permits required prior to floodplain development permit issuance (i.e. Wetlands, Erosion and Sedimentation Control, Riparian Buffers, Mining, etc.);
  8. If floodplain development permit is issued for placement of Recreational Vehicles and/or Temporary Structures, documentation to ensure the recreational vehicle and temporary structure requirements of Sec. 8.4.3, Standards are met; and
  9. If a watercourse is proposed to be altered and/or relocated, a description of the extent of watercourse alteration or relocation; an engineering report on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects to properties located both upstream and downstream; and a map (if not shown on plot plan) showing the location of the proposed watercourse alteration or relocation.

### **3.22.5. Floodplain Development Permit Data Requirements**

The following information shall be provided at a minimum on the floodplain development permit to ensure compliance with this code:

- A. A description of the development to be permitted under the floodplain development permit issuance;
- B. The Special Flood Hazard Area or Future Conditions Flood Hazard Area determination for the proposed development per available data specified in Sec. 8.4.2, Applicability;
- C. The regulatory flood protection elevation required for the reference level and all attendant utilities;
- D. The regulatory flood protection elevation required for the protection of all public utilities;
- E. All certification submittal requirements with timelines;

F. State that no fill material shall encroach into the floodway or non-encroachment area of any watercourse, if applicable;

G. The flood openings requirements, if in Zone AE or Zone X (Future).

### **3.22.6 Certification Requirements**

A. An Elevation Certificate (FEMA Form 81-31) or Floodproofing Certificate (FEMA Form 81-65) is required after the reference level is completed. Within twenty-one (21) calendar days of establishment of the reference level elevation, or floodproofing, by whatever construction means, whichever is applicable, it shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of the elevation of the reference level, or floodproofed elevation, whichever is applicable in relation to mean sea level. Said certification shall be prepared by or under the direct supervision of a registered land surveyor or professional engineer and certified by same. When floodproofing is utilized, said certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. Any work done within the twenty-one (21) day calendar period and prior to submission of the certification shall be at the permit holder's risk. The Floodplain Administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to further progressive work being permitted to proceed. Failure to submit the certification or failure to make said corrections required shall be cause to issue a stop-work order for the project.

B. A Final As-Built Elevation Certificate (FEMA Form 81-31) or Floodproofing Certificate (FEMA Form 81-65) is required after construction is completed and prior to Certificate of Compliance/Occupancy issuance. It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of final as-built construction of the elevation or floodproofed elevation of the reference level and all attendant utilities. Said certification shall be prepared by or under the direct supervision of a registered land surveyor or professional engineer and certified by same. When floodproofing is utilized, said certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. The Floodplain Administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to Certificate of Compliance/Occupancy issuance. In some instances, another certification may be required to certify corrected as-built construction. Failure to submit the certification or failure to make said corrections required shall be cause to withhold the issuance of a Certificate of Compliance/Occupancy.

C. If a manufactured home is placed within an Zone AE or Zone X (Future) and the elevation of the chassis is above 36 inches in height, an engineered foundation certification is required per Sec. 8.4.3, Standards.

D. If a watercourse is to be altered or relocated, a description of the extent of

watercourse alteration or relocation; an engineering report on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects to properties located both upstream and downstream; and a map showing the location of the proposed watercourse alteration or relocation shall all be submitted by the permit applicant prior to issuance of a floodplain development permit.

E. Certification Exemptions. The following structures, if located within Zone AE or Zone X (Future), are exempt from the elevation/floodproofing certification requirements specified in items 1 and 2 above:

1. Recreational Vehicles meeting requirements of recreational vehicles in Sec. 8.4.3, Standards;
2. Temporary Structures meeting the temporary structure requirements of Sec. 8.4.3, Standards; and
3. Accessory Structures less than 150 square feet meeting accessory structure requirements of Sec. 8.4.3, Standards.

*Amend Section 4.11.4 as follows:*

#### **4.11.4 Nonresidential Land Use Restrictions**

Nonresidential land uses shall be restricted in accordance with the following table and Sec. 8.7, Watershed Protection Overlay Standards.

<b>Overlay</b>	<b>Development Restrictions</b>
<b>M/LR-A</b>	All industrial uses listed in Sec. 5.2.7, Industrial Use Categories, and the sale of fuel for motor vehicles shall be prohibited.
<b>M/LR-B</b>	All Industrial uses listed in Sec. 5.2.7, Industrial Use Categories, shall be prohibited.
<b>F/J-A</b>	<p>Except in the Rural Tier, nonresidential uses shall be prohibited, except that commercial uses listed in Sec. 5.2.5, Commercial Use Categories, office uses listed in Sec.5.2.6, Office Use Categories, and light industrial uses listed in Sec. 5.2.7A, Light Industrial Service, shall be permitted on land zoned for such uses (see Sec. 5.1, Use Table) as of September 28, 1992, provided that they do not manufacture, distribute or warehouse for distribution nuclear materials or substantial quantities of hazardous materials. Such uses may be permitted to store for on-site use or produce as a waste product nuclear materials or substantial quantities of hazardous materials, subject to the requirements of Sec. B.7.2G, Hazardous and Nuclear Materials, provided that they maintain a 1000-foot natural vegetated buffer from the normal pool of the reservoir <u>except when located in a special flood hazard area</u>.</p> <p>Land already zoned for one of the above uses may be rezoned to permit one of the above nonresidential uses, except for commercial uses, in accordance with the procedures of Sec. 3.5, Zoning Map Change.</p> <p>Within the Rural Tier, nonresidential uses shall be prohibited except that uses allowed in the CN District may be permitted. The sale of fuel for motor vehicles shall be prohibited.</p>

Overlay	Development Restrictions
<b>F/J-B</b>	Municipal solid waste landfill facilities that are constructed and operated in accordance with N.C. Administrative Code Title 15.A.13.B. Sec. 1600 shall be permitted <u>except when located in a special flood hazard area</u> . Within the Rural Tier, commercial uses listed in Sec. 5.2.5, Commercial Use Categories, office uses listed in Sec. 5.2.6, Office Use Categories and industrial uses listed in Sec. 5.2.7, Industrial Use Categories, that manufacture, distribute, warehouse for distribution, store for on-site use, or produce as a waste product nuclear material or substantial quantities of hazardous materials <u>(except when located in a special flood hazard area)</u> shall be subject to the requirements of Sec. 8.7, Watershed Protection Overlay Standards.
<b>E-A</b>	Industrial uses listed in Sec. 5.2.7, Industrial Use Categories, shall be prohibited. The sale of fuel for motor vehicles shall be prohibited.
<b>E-B</b>	Within the Rural Tier, commercial uses listed in Sec. 5.2.5, Commercial Use Categories, office uses listed in Sec. 5.2.6, Office Use Categories, and industrial uses listed in Sec. 5.2.7, Industrial Use Categories, that manufacture, distribute, warehouse for distribution, store for on-site use, or produce as a waste product nuclear material or substantial quantities of hazardous materials <u>(except when located in a special flood hazard area)</u> shall be subject to the requirements of Sec. 8.7, Watershed Protection Overlay Standards.

*Add the following to Section 5.4.1:*

- E. Within Special Flood Hazard Areas, an accessory structure shall not exceed 1,000 square feet in area and shall meet the following criteria:
1. Accessory structures shall not be used for human habitation (including working, sleeping, living, cooking or restroom areas);
  2. Accessory structures shall not be temperature-controlled;
  3. Accessory structures shall be designed to have low flood damage potential;
  4. Accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters;
  5. Accessory structures shall be firmly anchored in accordance with Section 8.4, Floodplain and Flood Damage Protection Standards;
  6. All service facilities such as electrical shall be installed in accordance with Section 8.4, Floodplain and Flood Damage Protection Standards; and
  7. An accessory structure with a footprint less than 150 square feet that satisfies the criteria outlined above does not require an elevation or floodproofing certificate. Elevation or floodproofing certifications are required

for all other accessory structures in accordance with Section 8.4, Floodplain and Flood Damage Protection Standards.

*Add the following to Section 5.4.2.A:*

1. Accessory dwellings shall not be permitted in Special Flood Hazard Areas.
2. One additional off-street parking space shall be provided.

*Delete Section 8.4:*

## **~~Sec. 8.4—Floodplain Protection Standards~~**

### **~~8.4.1—Purpose~~**

~~The primary purpose of the floodplain protection standards is to preserve and maintain the natural floodplain in an undisturbed vegetated state in order to maintain flood storage capacity, control stormwater, improve water quality and conserve plant and wildlife habitat.~~

### **~~8.4.2—Development Restricted in the Floodway and Floodway Fringe~~**

- ~~A.—Development and land disturbing activity within the floodway and floodway fringe shall be prohibited, except as provided below, or allowed pursuant to a variance approved by the Board of Adjustment in accordance with Sec. 3.15, Variance.~~
- ~~B.—Land within the floodway and floodway fringe shall not serve to meet minimum lot size requirements, except in the Rural Tier and on property zoned RR or RS-20 in the Suburban Tier where at least 50% of the required lot area is located outside the floodway or floodway fringe.~~

### **~~8.4.3—Development Allowed in the Floodway and Floodway Fringe~~**

#### **~~A.—Development Requiring Development Review Board Approval~~**

~~Land in the floodway and floodway fringe may be used for the following purposes, provided that such uses are designed and constructed to minimize clearing, grading, erosion and water quality degradation and are in compliance with the Flood Damage Protection Ordinance.~~

- ~~1.—Crossings by streets, driveways, and railroads provided that they cross floodways and floodway fringe areas as nearly perpendicular to the stream as possible. Such facilities may run within and parallel to the stream (in the floodway and floodway fringe) if no other access to the property is feasible.~~
- ~~2.—Active and passive recreational activities.~~

- ~~3.—Intakes, docks, utilities (including water and wastewater treatment, stormwater control and sedimentation and erosion control facilities); bridges, other public facilities and water dependent structures.~~
- ~~4.—Wetlands constructed or restored for mitigation purposes.~~

## **~~B.—Development Requiring Governing Body Approval~~**

### **~~1.—Parking in the Floodway Fringe~~**

~~Land in the floodway fringe may be used for up to 20% of the parking required for the development on the tract: however, no more than 20% of the floodway fringe land on any development tract shall be used for parking. Parking in the floodway fringe shall require site plan approval from the governing body. In reviewing the site plan, consideration shall include whether the proposed parking is designed and arranged to minimize adverse environmental impact from placement of parking in the floodway fringe.~~

### **~~2.—Fill or Development in the Floodway Fringe~~**

~~In order to achieve higher quality site design and better utilization of the land adjacent to the floodway fringe, a property owner or developer may fill or use for development up to ten percent of the floodway fringe area contained within the boundaries of any development site provided that the governing body finds that:~~

- ~~a.—The proposed fill or development provides for a better balance between overall efficiency of the site design, and improved conservation elsewhere on the site than would be possible without intrusion into the floodway fringe area; and~~
- ~~b.—The proposed fill or development represents the minimum amount of floodway fringe intrusion to achieve this better balance.~~

~~*Commentary: Intrusion within the floodway fringe may allow preservation of other significant resources on the site, and the governing body is empowered to review the balancing of these two concepts.*~~

## **~~8.4.4—Density Credits~~**

- ~~A.—No credit shall be allowed for land in the floodway, except in the RR-District where 100% density credit may be given for land in the floodway in Conservation Subdivisions pursuant to Sec 6.2.4, Conservation Subdivision.~~
- ~~B.—The amount of land in the floodway fringe may be credited for residential density on adjacent land in the same development at a rate of 50% of that allowed by the zoning, except in the RR-District where 100% density credit may be given for land in the floodway fringe in Conservation Subdivisions pursuant to Sec 6.2.6, Conservation Subdivision.~~

#### **~~8.4.5 Variances~~**

~~The Board of Adjustment may grant variances to the requirements of Sec. 8.4, Floodplain Protection Standards, in accordance with the provisions of Sec. 3.15, Variances. The Board of Adjustment shall not be authorized to grant variances to the requirements of the Flood Damage Protection Ordinance.~~

*Replace Section 8.4. with the following:*

### **8.4 Floodplain and Flood Damage Protection Standards**

#### **8.4.1 Purpose**

The primary purpose of the floodplain and flood damage protection standards is to preserve and maintain the natural floodplain in an undisturbed vegetated state in order to maintain flood storage capacity, control stormwater, improve water quality and conserve plant and wildlife habitat. Additionally, these standards serve to promote public health, safety, and general welfare and to minimize public and private losses due to flood conditions within flood prone areas.

In addition, this section serves to facilitate implementation of the Federal Flood Insurance Program and to minimize the possibility that new construction will sustain damage from flooding by:

- A. Restricting or prohibiting uses that are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;
- B. Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- C. Controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which are involved in the accommodation of floodwaters;
- D. Controlling filling, grading, dredging, or other development that may increase erosion or flood damage;
- E. Preventing or regulating the construction of flood barriers that unnaturally divert flood waters or that may increase flood hazards to other lands;
- F. Minimizing damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, and streets and bridges located in areas of special flood hazard; and
- G. Ensuring that property owners and potential property owners are notified that property is a Special Flood Hazard Area or Future Conditions Flood Hazard Area.

*Commentary: Losses in floodprone areas are the result of the cumulative effects of obstructions, removal of vegetative cover,*



and construction practices that cause an increase in flood heights and velocities. Increased flood heights and velocities create a greater threat to land uses and structures that are inadequately elevated, floodproofed, or are otherwise unprotected from flood damage. Occupancy in flood prone areas by uses vulnerable to floods or other hazards can result in loss of life, property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures of flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.

The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering consideration. Larger floods can and will occur. Actual flood heights may be increased by man-made or natural causes. This ordinance does not imply that land outside the Special Flood Hazard Areas and Future Conditions Flood Hazard Areas or uses permitted within such areas will be free from flooding or flood damages. This ordinance shall not create liability on the part of Durham City or County or by any officer or employee thereof for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made hereunder.

#### **8.4.2 Applicability**

This section shall apply to all Special Flood Hazard Areas and Future Conditions Flood Hazard Areas within the City and County of Durham as identified by the Federal Emergency Management Agency (FEMA) or produced under the Cooperating Technical State (CTS) agreement between the State of North Carolina and FEMA in its Flood Hazard Boundary Map (FHBM) or Flood Insurance Study (FIS) and its accompanying flood maps, such as the Flood Insurance Rate Map(s) (FIRM) and/or the Flood Boundary Floodway Map(s) (FBFM), for Durham County dated May 2, 2006, are adopted by reference and declared to be a part of this ordinance. The Special Flood Hazard Areas and Future Conditions Flood Hazard Areas also include those defined through standard engineering analysis for private developments or by governmental agencies, but which have not yet been incorporated in the FIRM. This includes, but is not limited to, detailed flood data:

- A. generated as a requirement of Sec. 3.22.1.B (11 & 12), Duties and Responsibilities;
- B. preliminary FIRMs where more stringent than the effective FIRM; or
- C. post-disaster Flood Recovery Maps.

### **8.4.3 Standards**

#### **A. General**

In all Special Flood Hazard Areas and Future Conditions Flood Hazard Areas the following provisions are required:

1. All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure;
2. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage;
3. All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damages;
4. Electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding. These include but are not limited to HVAC equipment, water softener units, bath/kitchen fixtures, ductwork, electric meter panels/boxes, utility/cable boxes, appliances (i.e., washers, dryers, refrigerator, etc.), hot water heaters, electric outlets/switches;
5. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;
6. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters;
7. On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding;
8. Any alteration, repair, reconstruction, or improvements to a structure which is in compliance with the provisions of this ordinance, shall meet the requirements of new construction; and
9. New solid waste disposal facilities and sites, hazardous waste management facilities, salvage yards, and chemical storage facilities shall not be permitted. A structure or tank for chemical or fuel storage incidental to an allowed use or to the operation of a water treatment plant or wastewater treatment facility may be located in a Special Flood Hazard Area only if the structure or tank is either elevated or floodproofed to at least the regulatory flood protection elevation and certified according to the certification requirements in Sec. 3.22, Floodplain Development Permit.

10. Fill material shall be used for all new construction and substantial improvements to create an elevation that is two feet above base flood elevation. The fill material shall be required to extend for a distance of 40 feet from the exterior walls of a building. Where the distance to the property line is less than 40 feet, the fill shall extend to the property line. The required fill material distance shall include a sloped edge with a maximum 3:1 slope [for example, for a fill three feet deep: 31 feet of flat fill plus nine feet of sloped fill] or a retaining wall in lieu of the slope [for example, a side yard of flat fill and a retaining wall]. Residential accessory structures which are defined as nonhabitable structures by the North Carolina Building Code are exempt from requirements to extend the fill material away from the base but are required to be placed on fill which is two feet, five feet in Zone A, above base flood elevation. Exceptions from any of these requirements resulting from special storm water considerations shall be forwarded to the Board of Adjustment only with a recommendation from the Engineer's office.

## **B. Specific Standards**

In all Special Flood Hazard Areas where Base Flood Elevation (BFE) data has been provided and in Future Conditions Flood Hazard Areas where future conditions flood elevations data has been provided, as set forth in Sec. 8.4.2, Applicability, or Sec. 3.22.1.B (11 & 12), Duties and Responsibilities, the following provisions are required:

### **1. Subdivisions**

- a. Land in the Special Flood Hazard Areas and Future Conditions Flood Hazard Areas may be used for the following purposes, provided that such uses are designed and constructed to minimize clearing, grading, erosion and water quality degradation and are in compliance with the Sec. 8.4, Floodplain and Flood Damage Protection Standards. Land within Special Flood Hazard Areas and Future Conditions Flood Hazard Areas shall not serve to meet minimum lot size requirements, except in the Rural Tier and on property zoned RR or RS-20 in the Suburban Tier where at least 50% of the required lot area is located outside the floodway or non-encroachment area or floodway fringe.
- b. When permitted, development proposals located within Special Flood Hazard Areas shall:
  - 1) be consistent with the need to minimize flood damage;
  - 2) have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage;
  - 3) have adequate drainage provided to reduce exposure to flood hazards; and,

4)- have Base Flood Elevation (BFE) data provided if development is greater than the lesser of five (5) acres or fifty (50) lots/manufactured home sites. Such Base Flood Elevation (BFE) data shall be adopted by reference per Sec. 8.4.2, Applicability, to be utilized in implementing this code.

## **2. Residential Construction**

New construction or substantial improvement of any residential structure (including manufactured homes) shall have the reference level, including basement, elevated no lower than the regulatory flood protection elevation.

## **3. Non-Residential Construction**

New construction or substantial improvement of any commercial, industrial (other than hazardous, solid waste, salvage yards, chemical storage facilities or similar uses which are prohibited) or other non-residential structure shall have the reference level, including basement, elevated no lower than the regulatory flood protection elevation. Structures located in AE and X (Future) Zones may be floodproofed to the regulatory flood protection elevation in lieu of elevation provided that all areas of the structure below the required flood protection elevation are watertight with walls substantially impermeable to the passage of water, using structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect shall certify that the standards of this subsection are satisfied. Such certification shall be provided to the official as set forth in the certification requirements in Sec. 3.22, Floodplain Development Permit.

## **4. Manufactured Homes**

- a. New or replacement manufactured homes shall be elevated so that the reference level of the manufactured home is no lower than the regulatory flood protection elevation.
- b. Manufactured homes shall be securely anchored to an adequately anchored foundation to resist flotation, collapse, and lateral movement in accordance with the State of North Carolina Regulations for Manufactured/Mobile Homes, 1995 Edition, and any revision thereto adopted by the Commissioner of Insurance pursuant to NCGS §143-143.15 or a certified engineered foundation. Additionally, when the elevation would be met by an elevation of the chassis thirty-six (36) inches or less above the grade at the site, the chassis shall be supported by reinforced piers or other foundation elements of at least equivalent strength. When the elevation of the chassis is above thirty-six (36) inches in height, an engineering certification is required.

- c. All foundation enclosures or skirting shall be in accordance with Sec. 8.4.3.B.5, Elevated Buildings.
- d. All new, substantially improved or substantially damaged manufactured home parks or subdivisions located within Special Flood Hazard Areas shall prepare an evacuation plan for evacuation of all residents. The plan shall be filed with the Inspections Director, or designee (as the Floodplain Administrator) and the Emergency Management Coordinator prior to the time of site plan approval, plat approval, or building permit, if site plans or plats are not required.

## **5. Elevated Buildings**

New construction or substantial improvements of elevated buildings that include fully enclosed areas that are below the regulatory flood protection elevation shall not be designed to be used for human habitation, but shall be designed to be used only for parking of vehicles, building access, or limited storage of maintenance equipment used in connection with the premises, be constructed entirely of flood resistant materials below the regulatory flood protection level in Zone AE and X Zone (Future) and meet the following design criteria:

- a. Measures for complying with this requirement shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. To meet this requirement, the foundation must either be certified by a professional engineer or architect or meet the following minimum design criteria:
  - 1) Provide a minimum of two openings on different sides of each enclosed area subject to flooding.
  - 2) The total net area of all openings must be at least one (1) square inch for each square foot of each enclosed area subject to flooding.
  - 3) If a building has more than one enclosed area, each area must have openings on exterior walls to allow floodwater to directly enter;
  - 4) The bottom of all required openings shall be no higher than one (1) foot above the adjacent grade; and
  - 5) Openings may be equipped with screens, louvers, or other opening coverings or devices provided they permit the automatic flow of floodwaters in both directions. For purposes of this provision, vinyl or sheet metal skirting shall not be considered an enclosure for regulatory and flood insurance rating purposes and therefore shall not require hydrostatic openings.
- b. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment used in connection with the premises (standard exterior door) or entry to the living area (stairway or

elevator). The interior portion of such enclosed area shall not be partitioned or finished into separate rooms, except to enclose storage areas.

## **6. Additions/Improvements**

a. Additions and/or improvements to pre-FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing structure are:

1) not a substantial improvement the addition and/or improvements must be designed to minimize flood damages and must not be any more non-conforming than the existing structure; or

2) a substantial improvement, the existing structure and the addition and/or improvements must comply with the standards for new construction.

b. Additions to post-FIRM structures with no modifications to the existing structure shall require only the addition to comply with the standards for new construction.

c. Additions and/or improvements to post-FIRM structures whereas the addition and/or improvements in combination with any interior modifications to the existing structure are:

1) not a substantial improvement, the addition and/or improvements only must comply with the standards for new construction; or

2) a substantial improvement, the existing structure and the addition and/or improvements must comply with the standards for new construction.

d. Where a fire wall or independent perimeter load-bearing wall is provided between the addition and the existing building, the addition(s) shall be considered a separate building and only the addition must comply with the standards for new construction.

## **7. Recreational Vehicles**

Recreational vehicles shall not be located within Special Flood Hazard Areas for 180 days or more and shall be licensed and ready for highway use (on wheels attached to a site by quick-disconnect type utilities with no permanently attached additions). Recreational vehicles not meeting these standards shall meet the standards of manufactured homes above.

## **8. Temporary Structures**

Prior to the issuance of a floodplain development permit for a temporary structure, Applicants must submit to the Floodplain Administrator a

written plan for the removal of such structure(s) in the event of a hurricane or flash flood warning notification. The plan must include the following information:

- a. a proposed time period for which the temporary use will be permitted;
- b. the name, address, and phone number of the individual responsible for the removal of the temporary structure;
- c. the time frame prior to the event at which a structure will be removed (i.e. minimum of 72 hours before landfall of a hurricane or immediately upon flood warning notification);
- d. a copy of the contract or other suitable instrument with a trucking company to ensure the availability of removal equipment when needed; and
- e. designation, accompanied by documentation, of a location outside the Special Flood Hazard Area or Future Conditions Flood Hazard Area to which the temporary structure will be moved.

## **9. Accessory Structures**

When accessory structures (sheds, detached garages, etc.) are to be placed within a Special Flood Hazard Area or Future Conditions Flood Hazard Area, the following criteria shall be met:

- a. Accessory structures shall not be used for human habitation (including work, sleeping, living, cooking or restroom areas);
- b. Accessory structures shall be designed to have low flood damage potential;
- c. Accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters;
- d. Accessory structures shall be firmly anchored in accordance with Sec. 8.4.3, General;
- e. All service facilities such as electrical and heating equipment shall be installed in accordance with Sec. 8.4.3, Specific Standards;
- f. Openings to relieve hydrostatic pressure during a flood shall be provided below regulatory flood protection elevation in conformance elevated building requirements in Sec. 8.4.3, Standards; and
- g. An accessory structure with a footprint less than 150 square feet does not require an elevation or floodproofing certificate. Elevation or floodproofing certifications are required for all other accessory structures in accordance with the certification requirements in Sec. 3.22, Floodplain Development Permit.

### **C. Floodplains without Base Flood Elevations**

Within the Special Flood Hazard Areas established in Sec. 8.4.2, Applicability, where no Base Flood Elevation (BFE) data has been provided, the following provisions shall apply:

1. No encroachments, including fill, new construction, substantial improvements or new development shall be permitted within a distance of 20 feet each side from top of bank or five times the width of the stream whichever is greater, unless certification with supporting technical data by a registered professional engineer is provided demonstrating that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.
2. The BFE used in determining the regulatory flood protection elevation shall be determined based on one of the following criteria set in priority order:
  - a. If Base Flood Elevation (BFE) data is available from other sources, all new construction and substantial improvements within such areas shall also comply with all applicable provisions of this ordinance and shall be elevated or floodproofed in accordance with standards in Sec. 3.22.1.B (11&12).
  - b. All subdivision, manufactured home park and other development proposals shall provide Base Flood Elevation (BFE) data if development is greater than five (5) acres or has more than fifty (50) lots/manufactured home sites. Such Base Flood Elevation (BFE) data shall be adopted by reference per Sec. 8.4.2, Standards, to be utilized in implementing this ordinance.
  - c. When Base Flood Elevation (BFE) data is not available from a Federal, State, or other source as outlined above, the reference level shall be elevated to or above five feet above the highest adjacent grade.

### **D. Floodplains with Base Flood Elevations but no Established Floodway or Non-Encroachment Areas**

Along rivers and streams where Base Flood Elevation (BFE) data is provided but neither floodway nor non-encroachment areas are identified for a Special Flood Hazard Area on the FIRM or in the FIS, no encroachments, including fill, new construction, substantial improvements, or other development, shall be permitted unless certification with supporting technical data by a registered professional engineer is provided demonstrating that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.



## **E. Floodway and Non-Encroachment Areas**

Located within the Special Flood Hazard Areas established in Sec 8.4.2, Applicability, are areas designated as floodways or non-encroachment areas. The floodways and non-encroachment areas are extremely hazardous areas due to the velocity of floodwaters that have erosion potential and carry debris and potential projectiles. The following provisions shall apply to all development within such areas:

1. No encroachments, including fill, new construction, substantial improvements and other developments shall be permitted unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in the flood levels during the occurrence of the base flood. Such certification and technical data shall be presented to the Floodplain Administrator prior to issuance of floodplain development permit.
2. If the encroachment requirements Sec. 8.4.3, E, Floodway and Non-Encroachment Areas, is satisfied, all development shall comply with all applicable flood hazard reduction provisions of this ordinance.
3. No manufactured homes shall be permitted, except replacement manufactured homes in an existing manufactured home park or subdivision provided the following provisions are met:
  - a. the anchoring and the elevation standards of Sec. 8.4.3, Standards, and
  - b. the no encroachment standards of Sec. 8.4.3.E, Floodway and Non-Encroachment Areas, are met.

## **F. Standards for Areas of Shallow Flooding (Zone AO)**

Located within the Special Flood Hazard Areas established in Sec 8.4.2, Applicability, are areas designated as shallow flooding areas. These areas have special flood hazards associated with base flood depths of one (1) to three (3) feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and indeterminate. In addition to the general standards in 8.4.3.A, all new construction and substantial improvements shall meet the following requirements.

1. The reference level shall be elevated at least as high as the depth number specified on the Flood Insurance Rate Map (FIRM), in feet, plus a freeboard of 2 feet, above the highest adjacent grade; or at least five feet above the highest adjacent grade if no depth number is specified.
2. Non-residential structures may, in lieu of elevation, be floodproofed to

the same level as required in Sec. 8.4.3.F.1 so that the structure, together with attendant utility and sanitary facilities, below that level shall be watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. Certification is required as per Sec. 3.22.6, Certification Requirements, and Sec. 8.4.3.B.3, Non-Residential Construction.

3. Adequate drainage paths shall be provided around structures on slopes, to guide floodwaters around and away from proposed structures.

#### **8.4.4 Development in Special Flood Hazard Areas**

Development and land disturbing activity within Special Flood Hazard Areas shall be prohibited, except as provided below or allowed pursuant to a variance issued by the Board of Adjustment pursuant to Sec. 3.15, Variance.

##### **A. Development Allowed**

Land in Special Flood Hazard Areas may be used for the following purposes, with no special approvals required:

1. Agricultural uses, including active agriculture, pasture forestry, wildlife sanctuary, game farms, and similar uses; and
2. Lawns and gardens.

##### **B. Development Requiring Development Review Board Approval**

1. Land in Special Flood Hazard Areas may be used for the following purposes, provided that such uses are designed and constructed to minimize clearing, grading, erosion and water quality degradation.
  - a. Active and passive recreational activities.
  - b. Wetlands constructed or restored for mitigation purposes.
2. Land in the floodway or non-encroachment area fringe may be used for the following purposes, provided that such uses are designed and constructed to minimize clearing, grading, erosion and water quality degradation.
  - a. Crossings by streets, driveways, and railroads provided that they cross the Special Flood Hazard Areas as nearly perpendicular to the stream as possible. Such facilities may run within and parallel to the stream if no other access to the property is feasible.
  - b. Intakes, docks, piers, utilities (including water and wastewater treatment, stormwater control and sedimentation and erosion control

facilities), bridges, other public facilities and water-dependent structures.

3. Land in the floodway or non-encroachment area may be used for the following purposes if such uses are certified by a professional engineer registered in the State of North Carolina that no increases in flood levels during the occurrence of a base flood will result. Such uses shall be designed and constructed to minimize clearing, grading, erosion and water quality degradation.

a. Crossings by streets, driveways, and railroads provided that they cross Special Flood Hazard Areas as nearly perpendicular to the stream as possible. Such facilities may run within and parallel to the stream if no other access to the property is feasible.

b. Intakes, docks, piers, utilities (including water and wastewater treatment, stormwater control and sedimentation and erosion control facilities), bridges, other public facilities and water-dependent structures.

### **C. Development Requiring Governing Body Approval**

#### **1. Parking in the Floodway or Non-Encroachment Area Fringe**

Land in the floodway or non-encroachment area fringe may be used for up to 20% of the parking required for the development on the tract: however, no more than 20% of the floodway or non-encroachment area fringe land on any development tract shall be used for parking. Parking in the floodway or non-encroachment area fringe shall require site plan approval from the governing body. In reviewing the site plan, consideration shall include whether the proposed parking is designed and arranged to minimize adverse environmental impact from placement of parking in the floodway or non-encroachment area fringe.

#### **2. Fill or Development in the Floodway or Non-Encroachment Area Fringe**

In order to achieve higher quality site design and better utilization of the land adjacent to the floodway or non-encroachment area fringe, a property owner or developer may fill or use for development up to ten percent of the floodway or non-encroachment area fringe area contained within the boundaries of any development site provided that the governing body finds that:

a. The proposed fill or development provides for a better balance between overall efficiency of the site design, and improved conservation elsewhere on the site than would be possible without intrusion into the floodway or non-encroachment area fringe area; and

- b. The proposed fill or development represents the minimum amount of floodway or non-encroachment area fringe intrusion to achieve this better balance.

*Commentary: Intrusion within the floodway or non-encroachment area fringe may allow preservation of other significant resources on the site, and the governing body is empowered to review the balancing of these two concepts.*

- A. No credit shall be allowed for land in the floodway or non-encroachment area, except in the RR District where 100% density credit may be given for land in the floodway or non-encroachment area in Conservation Subdivisions pursuant to Sec 6.2.4, Conservation Subdivision.
- B. The amount of land in the floodway or non-encroachment area fringe may be credited for residential density on adjacent land in the same development at a rate of 50% of that allowed by the zoning, except in the RR District where 100% density credit may be given for land in the floodway or non-encroachment area fringe in Conservation Subdivisions pursuant to Sec 6.2.4, Conservation Subdivision.

*Amend Section 12.1.1.D as follows:*

- D. Base floodplain elevation data shall be provided for all development proposals that are impacted by a floodplain as required by the Flood Damage Protection Ordinance Sec. 8.4, Floodplain and Flood Damage Protection Standards.

*Amend Section 14.1.2.A as follows:*

**A. Nonconforming Lot**

A nonconforming lot shall be any legally established parcel that does not conform to the current area or dimensional requirements of the zoning district in which it is located, except that any legally established lot of record not located within a Special Flood Hazard Area that has with a minimum width of 35 feet created prior to the effective date of this Ordinance that is located on a street that is accepted and maintained by NCDOT or the City (or such other form of access as is permitted pursuant to Sec. 12.2.2, Other Forms of Access) may be developed with a single family residence subject to Sec. 8.7, Watershed Protection Overlay Standards, and the availability of water and wastewater treatment systems, so long as such use is a permitted use in the district in which the property is located.

*Amend Section 14.1.4 as follows:*

Nothing in this section shall prohibit the ordinary maintenance and repair of a nonconformity, including, but not limited to, repairs required by the Durham Housing Code, except that nonconforming structures that have suffered

repetitive loss due to flooding shall not be permitted to be repaired. Maintenance and repair shall be subject to issuance of building permits, as is required by the Building Code.

*Amend Section 14.2.2.A as follows:*

- A. Lots that do not meet the requirements of Sec. 14.1.2A, Nonconforming Lot, that are not located within a Special Flood Hazard Area may be developed following approval by the Board of Adjustment as a minor special use in accordance with Sec. 3.9, Special Use Permit, only where one of the following findings can be made:

*Add the following to Section 14.2:*

#### **14.2.4 Lots within Special Flood Hazard Areas**

Nonconforming lots within Special Flood Hazard Areas may only be developed through approval of a variance issued by the Board of Adjustment pursuant to Sec. 3.15, Variance.

*Amend Section 14.4.1.A.6 as follows:*

6. Reconstruction of buildings not located in Special Flood Hazard Areas other than single family houses that have been destroyed, if the cost of reconstruction does not exceed 50% of the appraised tax value of the original building, and if the reconstruction does not increase the degree or extent of the nonconforming feature.

*Amend Section 14.4.1.A.7 as follows:*

7. Reconstruction of single family houses not located in Special Flood Hazard Areas that have been destroyed if the reconstruction does not increase the degree or extent of the nonconforming feature.

*Add the following to Section 14.4.1:*

- A. Reconstruction of buildings, including single family homes, that are located in Special Flood Hazard Areas, shall not be permitted if the structure has experienced substantial loss or repetitive loss.

*Add the following as Section 15.6 and renumber the existing Section 15.6, Inspections and Investigations, to Section 15.7 and amend 15.7.2.A as follows:*

## **15.6.Floodplain and Flood Damage Protection Enforcements and Penalties**

### **15.6.1 Corrective Procedure**

#### **A. Violations to be Corrected**

When the Floodplain Administrator finds violations of applicable State and local laws, it shall be his or her duty to notify the owner or occupant of the building of the violation. The owner or occupant shall immediately remedy each of the violations of law pertaining to their property.

#### **B. Actions in Event of Failure to Take Corrective Action**

If the owner of a building or property shall fail to take prompt corrective action, the Floodplain Administrator shall give the owner written notice, by certified or registered mail to the owner's last known address or by personal service, stating:

1. that the building or property is in violation of the requirements of Sec. 8.4, Floodplain and Flood Damage Protection Standards;
2. that a hearing will be held before the Floodplain Administrator at a designated place and time, not later than ten (10) days after the date of the notice, at which time the owner shall be entitled to be heard in person or by counsel and to present arguments and evidence pertaining to the matter; and
3. that following the hearing, the Floodplain Administrator may issue such order to alter, vacate, or demolish the building; or to remove fill as appears appropriate.

#### **C. Order to Take Corrective Action**

If, upon a hearing held pursuant to the notice prescribed above, the Floodplain Administrator shall find that the building or development is in violation of Sec. 8.4, Floodplain and Flood Damage Protection Standards, he or she shall make an order in writing to the owner, requiring the owner to remedy the violation within a specified time period, not less than sixty (60) days. Where the Floodplain Administrator finds that there is imminent danger to life or other property, he may order that corrective action be taken in such lesser period as may be feasible.

#### **D. Appeal**

Any owner who has received an order to take corrective action may appeal the order to the local elected governing body by giving notice of appeal in writing to the Floodplain Administrator and the clerk within ten (10) days following issuance of the final order. In the absence of an appeal, the order of the Floodplain Administrator shall be final. The local governing body shall hear an appeal within a reasonable time and may affirm, modify and affirm, or revoke the order.

#### **E. Failure to Comply with Order**

If the owner of a building or property fails to comply with an order to take corrective action from which no appeal has been taken, or fails to comply with an order of the governing body following an appeal, he shall be guilty of a misdemeanor and shall be punished in the discretion of the court.

### **15.6.2.1 Penalties for Violations**

In addition to the penalties specified on Sec. 15.3.4, Criminal Penalties, the following penalties may also be imposed:

#### **A. Stop Work Order**

The Inspections Director, or designee, (acting as the Floodplain Administrator) may order work on any site within a Special Flood Hazard Area to be immediately stopped whenever a building or part thereof is being constructed, reconstructed, altered, or repaired in violation of this ordinance. The stop work order shall be in writing and directed to the person doing the work. The stop work order shall state the specific work to be stopped, the specific reasons for the stoppage, and the conditions under which the work may be resumed. Violation of a stop work order shall constitute a misdemeanor.

#### **B. Revocation of Permits**

The Inspections Director, or designee, (acting as the Floodplain Administrator) may revoke and require the return of a permit by notifying the permit holder in writing stating the reason for the revocation. Permits shall be revoked for any substantial departure from the approved application, plans, or specifications; for refusal or failure to comply with the requirements of State or local laws; or for false statements or misrepresentations made in securing the permit. Any permit mistakenly issued in violation of an applicable State or local law may also be revoked.

#### **C. Correction of Violations**

The owner or occupant of any building or property notified of a violation by

the Inspections Director, or designee, shall immediately remedy each of the violations.

**D. Actions in the Event of Failure to Take Corrective Action**

1. If the owner or occupant of any building or property notified of a violation fails to take corrective action, the Inspections Director, or designee, (acting as the Floodplain Administrator) shall provide written notice consistent with the requirements of Sec. 15.2.1, Notice of Violation, that the building or property is in violation of the provisions of Sec. 8.4, Floodplain and Flood Damage Protection Standards.
2. The Inspections Director (acting as the Floodplain Administrator) shall schedule a hearing at a designated place and time, not later than ten days after the date of notice, at which time the owner or occupant of the building or property shall be entitled to be heard in person or by counsel and to present arguments and evidence pertaining to the violation.
3. If, following the hearing, the Inspections Director finds that the building or property is in violation of the provisions of Sec. 8.4, Floodplain and Flood Damage Protection Standards, he/she shall issue an order in writing to the owner or occupant of the building or property to correct the violation by altering, vacating, or demolishing the building or removing any fill, whichever is appropriate, within a period deemed reasonable by the Inspections Director. Such period shall not be less than 60 days unless the Inspections Director finds that the violation results in imminent danger to life or other property, in which case a shorter period to correct the violation may be imposed.

**15.7.2 Inspections of Private Property**

- A. Inspections on private property to determine compliance may be made at any reasonable time with the consent of the occupant of the property, except that, on projects being developed within Special Flood Hazard Areas, the Inspections Director, or designee (acting as the Floodplain Administrator) shall have authority to make as many inspections of the work as may be necessary to ensure that it is being done according to the requirements of this ordinance and the terms of the permit. In exercising this authority within Special Flood Hazard Areas, the Inspections Director, or designee, shall have a right, upon presentation of credentials, to enter on any premises within the jurisdiction at any reasonable hour for the purposes of inspection and/or enforcement.



*Add the following to Section 16.2:*

**BFE: Base Flood Elevation**

**CLOMR: Conditional Letter of Map Revision**

**FBFM: Flood Boundary and Floodway Map**

**FEMA: Federal Emergency Management Agency**

**FHBM: Flood Hazard Boundary Map**

**FIRM: Flood Insurance Rate Map**

**FIS: Flood Insurance Study**

**HAG: Highest Adjacent Grade**

**LAG: Lowest Adjacent Grade**

**LOMR: Letter of Map Revision**

**NFIP: National Flood Insurance Program**

**NGVD: National Geodetic Vertical Datum**

**SFHA: Special Flood Hazard Area**

**WSE: Water Surface Elevation**

*Amend or add the following in Section 16.3:*

**Addition (to an existing building):** An extension or increase in the floor area or height of a building or structure

**Appeal:** Request for review of a final order, interpretation or decision by any administrative official authorized to make such decision.

**Area of Shallow Flooding:** A designated AO Zone on a community's Flood Insurance Rate Map (FIRM) with base flood depths from one to three feet, where a clearly defined channel does not exist, the path of flooding is unpredictable and indeterminate, and velocity flow may be evident.

**Base Flood:** The flood having a one percent chance of being equaled or exceeded in any given year based on current conditions hydrology.

**Base Flood Elevation (BFE):** A determination as published in the Flood Insurance Study of the water surface elevations of the base flood based on current

conditions hydrology as published in the Flood Insurance Study. When the BFE has not been provided in a "Special Flood Hazard Area", it may be obtained from engineering studies available from a Federal or State other source using FEMA approved engineering methodologies. This elevation, when combined with the "Freeboard", establishes the "Regulatory Flood Protection Elevation" in Special Flood Hazard Areas.

**Basement:** The lowest level or story which has its floor sub-grade on at least three sides.

**Chemical Storage Facility:** means a building, portion of a building, or exterior area adjacent to a building used for the storage of any chemical or chemically reactive products.

**Conditional Letter of Map Revision (CLOMR):** A formal review and comment issued by the Federal Emergency Management Agency as to whether a proposed project complies with the minimum NFIP floodplain management criteria, and direction on revisions that will need to be made to the NFIP maps and/or study upon completion of the project.

**Current Conditions Hydrology:** The flood discharges associated with the land-use conditions existing within the drainage area of a watercourse at the time a flood study of the watercourse was conducted. Current conditions flood discharges and historical flood study information are published in the Flood Insurance Study.

**Development:** Any human caused change to improved or unimproved real estate that requires a permit or approval from any agency of the City or County of Durham, including but not limited to, constructing or changing buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations and storage of equipment or materials.

**Disposal:** When used in reference to Sec. 8.4, Floodplain and Flood Damage Protection Standards, is defined as in NCGS 130A-290(a)(6), the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste into or on any land or water so that the solid waste or any constituent part of the solid waste may enter the environment or be emitted into the air or discharged into any waters, including groundwaters.

**Elevated Building:** A non-basement building: (a) built in a Special Flood Hazard Area to have the top of the elevated floor, above the ground by means of pilings, columns (posts or piers), shear walls parallel to the flow of water or adequately anchored so as not to impair the structural integrity of the building during a flood up to the magnitude of the base flood; or (b) elevated by means of fill or solid foundation perimeter walls with openings sufficient to facilitate the unimpeded movement of flood waters.

**Encroachment:** When used in reference to Sec. 8.4, Floodplain and Flood Damage Protection Standards, the advance or infringement of uses, fill, excavation,

buildings, permanent structures or development into a floodplain, which may impede or alter the flow capacity of a floodplain.

**Existing Manufactured Home Park or Manufactured Home Subdivision:** When used in reference to Sec. 8.4, Floodplain and Flood Damage Protection Standards, a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) was completed before the original adoption of flood damage protection ordinances which occurred in the City of Durham on October 18, 1971 and in Durham County on August 21, 1972.

**Flood or flooding:** A general and temporary condition of partial or complete inundation of normally dry land areas from:

1. The overflow of inland waters; and/or,
2. The unusual and rapid accumulation of runoff of surface waters from any source.

**Flood Boundary and Floodway Map (FBFM):** An official map of a community, issued by the Federal Emergency Management Agency, on which the Special Flood Hazard Areas and the floodways are delineated. This official map is a supplement to and shall be used in conjunction with the Flood Insurance Rate Map (FIRM).

**Flood Hazard Boundary Map (FHBM):** an official map issued by the Federal Emergency Management Agency, where the boundaries of the Special Flood Hazard Areas have been defined as Zone A.

**Flood Insurance:** The insurance coverage provided under the National Flood Insurance Program.

**Flood Insurance Rate Map (FIRM):** An official map on which the Federal Emergency Management Agency has delineated the areas of special flood hazard, the Future Conditions Flood Hazard Areas and the risk premium zones.

**Flood Insurance Study (FIS):** A report that includes an examination, evaluation, and determination of flood hazards, corresponding water surface elevations (if appropriate), flood hazard risk zones, and other flood data in a community issued by the Federal Emergency Management Agency. The Flood Insurance Study report includes Flood Insurance Rate Maps (FIRMs) and Flood Boundary and Floodway Maps (FBFMs), if published.

**Flood Zone:** A geographical area shown on a Flood Hazard Boundary Map or Flood Insurance Rate Map that reflects the severity or type of flooding in the area.

**Floodplain (or Flood Prone Area):** Any land area susceptible to being inundated by

water from any source.

**Floodplain Administrator:** is the individual appointed to administer and enforce the floodplain management regulations.

**Floodplain Development Permit:** means any type of permit that is required in conformance with the provisions of this ordinance, prior to the commencement of any development activity.

**Floodplain Management:** means the operation of an overall program of corrective and preventive measures for reducing flood damage and preserving and enhancing, where possible, natural resources in the floodplain, including, but not limited to, emergency preparedness plans, flood control works, floodplain management regulations, and open space plans.

**Floodplain Management Regulations:** means this ordinance and other zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances, and other applications of police power which control development in flood-prone areas. This term describes federal, state or local regulations, in any combination thereof, which provide standards for preventing and reducing flood loss and damage.

**Floodproofing:** Any combination of structural and nonstructural additions, changes, or adjustments to structures, which reduce or eliminate risk of flood damage to real estate or improved real property, water and sanitation facilities, or structures with their contents.

**Freeboard:** The height added to the Base Flood Elevation (BFE) or the future conditions flood elevation to account for watershed development as well as limitations of the engineering methodologies for the determination of flood elevations. The Base Flood Elevation plus the freeboard establishes the "Regulatory Flood Protection Elevation."

**Future Conditions Flood:** The flood having a one (1) percent chance of being equaled or exceeded in any given year based on future conditions hydrology.

**Future Conditions Flood Elevation:** A determination of the water surface elevations of the one percent (1%) annual chance flood based on future conditions hydrology as published in the Flood Insurance Study. This elevation, when combined with the freeboard, establishes the "Regulatory Flood Protection Elevation" in Future Conditions Flood Hazard Areas.

**Future Conditions Flood Hazard Area:** The land area that would be inundated by the one percent (1%) annual chance flood based on future conditions hydrology as determined in Section 8.4.2, Applicability, of this ordinance.

**Future Conditions Hydrology:** The flood discharges associated with projected land-use conditions based on Durham City's and County's zoning maps or comprehensive land-use plans and without consideration of projected future

construction of flood detention structures or projected future hydraulic modifications within a stream or other waterway such as bridge and culvert construction, fill, and excavation. Future conditions flood discharges are published in the Flood Insurance Study.

**Hazardous Waste Facility:** means, as defined in NCGS Article 9 of Chapter 130A, a facility for the collection, storage, processing, treatment, recycling, recovery, or disposal of hazardous waste.

**Highest Adjacent Grade:** The highest natural elevation of the ground surface, prior to construction next to the proposed walls of the structure.

**Historic Structure:** Any structure that is: (a) listed individually in the National Register of Historic Places (a listing maintained by the US Department of Interior) or preliminarily determined by the Secretary of Interior as meeting the requirements for individual listing on the National Register; (b) certified or preliminarily determined by the Secretary of Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district; (c) individually listed on a local inventory of historic landmarks in communities with a "Certified Local Government (CLG) Program"; or (d) certified as contributing to the historical significance of a historic district designated by a community with a "Certified Local Government (CLG) Program" Certified Local Government (CLG) Programs are approved by the US Department of the Interior in cooperation with the North Carolina Department of Cultural Resources through the State Historic Preservation Officer as having met the requirements of the National Historic Preservation Act of 1966 as amended in 1980.

**Lowest Adjacent Grade (LAG):** means the elevation of the ground, sidewalk or patio slab immediately next to the building, or deck support, after completion of the building.

**Letter of Map Amendment (LOMA):** An official determination by FEMA that a property has been inadvertently included in a Special Flood Hazard Area as shown on an effective FHBM or FIRM and is not subject to inundation by the one percent annual chance flood. Generally, the property is located on natural high ground at or above the BFE or on fill placed prior to the effective date of the first NFIP map designating the property as within a Special Flood Hazard Area. Limitations of map scale and development of topographic data more accurately reflecting the existing ground elevation at the time the maps were prepared are the two most common bases for LOMA requests.

**Letter of Map Change (LOMC):** A term used to inclusively define a FEMA issued letter related to a Flood Insurance Rate Map or Flood Hazard Boundary Map using one or more of the following processes: Letter of Map Amendment, Letter of Map Revision, as well as conditional Letter of Map Amendment and conditional Letter of Map Revision.

**Letter of Map Revision (LOMR):** A letter issued by the Federal Emergency

Management Agency that confirms amendment of a special flood hard area boundary.

**Lowest Floor:** The lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or storage in an area other than a basement area is not considered a building's lowest floor provided that such an enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this ordinance.

**Manufactured Home (Class A, B, C):** A residential unit that is not constructed in accordance with the standards set forth in the North Carolina State Building Code and is composed of one or more components, each of which was substantially assembled in a manufacturing plant, designed to be transported to a site on its own chassis, and designed to be used with or without a permanent foundation when connected to the required utilities. Within the text of this Ordinance, the term "manufactured home" shall only apply to Class A or B manufactured homes unless explicitly stated to include Class C manufactured homes. Class A and Class B are manufactured homes constructed after July 1, 1976 that meet or exceed the construction standards promulgated by the US Department of Housing and Urban Development that were in effect at the time of construction. Class C manufactured homes are manufactured homes that do not meet the definition of a Class A or Class B manufactured home. The term "manufactured home" does not include "recreational vehicles."

**Manufactured Home Park or Manufactured Home Subdivision:** When used in reference to Sec. 8.4, Floodplain and Flood Damage Protection Standards, a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

**Market Value:** The building value, not including the land value and that of any accessory structures or other improvements on the lot. Market value may be established by independent certified appraisal; replacement cost depreciated for age of building and quality of construction (Actual Cash Value); or adjusted tax assessed values.

**Mean Sea Level:** The National Geodetic Vertical Datum (NGVD) as corrected in 1929, the North American Vertical Datum (NAVD) as corrected in 1988 or other vertical control datum used as a reference for establishing varying elevations within the floodplain, to which Base Flood Elevations (BFEs) shown on a FIRM are referenced. Refer to each FIRM panel to determine datum used.

**New Construction:** When used in reference to Sec. 8.4, Floodplain and Flood Damage Protection Standards, structures for which the "start of construction" commenced on or after the effective date of the original version of the community's Flood Damage Prevention Ordinance and includes any subsequent improvements to such structures.

**Non-Encroachment Area:** The channel of a river or other watercourse and the

adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot as designated in the Flood Insurance Study report.

**Obstruction:** When used in reference to Sec. 8.4, Floodplain and Flood Damage Protection Standards, includes, but is not limited to, any dam, wall, wharf, embankment, levee, dike, pile, abutment, protection, excavation, channelization, bridge, conduit, culvert, building, wire, fence, rock, gravel, refuse, fill, structure, vegetation or other material in, along, across or projecting into any watercourse which may alter, impede, retard or change the direction and/or velocity of the flow of water, or due to its location, its propensity to snare or collect debris carried by the flow of water, or its likelihood of being carried downstream.

**Post-FIRM:** Construction or other development which started on or after the effective date of the initial Flood Insurance Rate Map for the area.

**Pre-FIRM:** Construction or other development which started before the effective date of the initial Flood Insurance Rate Map for the area.

**Principally Above Ground:** At least 51 percent of the actual cash value of the structure is above ground.

**Public Safety and/or Nuisance:** When used in reference to Sec. 3.22, Floodplain Development Permit and Sec. 8.4, Floodplain and Flood Damage Protection Standards, means anything which is injurious to the safety or health of an entire community or neighborhood, or any considerable number of persons, or unlawfully obstructs the free passage or use, in the customary manner, of any navigable lake, or river, bay, stream, canal, or basin.

**Recreational Vehicle:** A vehicle, which is: (a) built on a single chassis; (b) 400 square feet or less when measured at the largest horizontal projection; (c) designed to be self-propelled or permanently towable by a light duty truck; and (d) designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel, or seasonal use.

**Reference Level:** The top of the lowest floor for structures within Special Flood Hazard Areas and Future Conditions Flood Hazard Areas designated as Zone A1-A30, AE, A, A99, AO, or Zone X (Future).

**Regulatory Flood Protection Elevation:** The elevation above mean sea level to which the reference level of all structures and other development located within Special Flood Hazard Areas and Future Conditions Flood Hazard Areas must be protected.

- 1.** In Special Flood Hazard Areas where Base Flood Elevations (BFEs) have been determined, this elevation shall be the BFE plus two feet of freeboard.
- 2.** In Special Flood Hazard Areas where no BFE has been established, this elevation shall be at least five feet above the highest adjacent grade.
- 3.** In Future Conditions Flood Hazard Areas this elevation shall be the Future

Conditions Flood Elevation plus two feet of freeboard.

**Remedy a Violation:** To bring a structure or other development into compliance with the requirements of this ordinance and, when appropriate, State requirements.

**Repetitive Loss:** Flood-related damages sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds 25% of the market value of the structure before the damage occurred.

**Riverine:** means relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.

**Salvage Yard:** Any non-residential property used for the storage, collection, and/or recycling of any type of equipment, and including but not limited to vehicles, appliances and related machinery.

**Solid Waste Disposal Facility:** Means, as defined in NCGS 130A-290(a)(35), any facility involved in the disposal of solid waste.

**Solid Waste Disposal Site:** Means, as defined in NCGS 130A-290 (a) (36), any place at which solid wastes are disposed of by incineration, sanitary landfill, or any other method.

**Special Flood Hazard Area (SFHA) or Area of Special Flood Hazard:** The land in the floodplain subject to a one percent or greater chance of being flooded in any given year based on current conditions hydrology.

**Start of Construction:** Includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of the building, whether or not that alteration affects the external dimensions of the building.

**Structure:** A walled and roofed building that is principally above ground, or a manufactured home or when used in reference to Sec. 8.4, Floodplain and Flood Damage protection Standards, a gas or liquid storage tank that is principally



above ground.

**Substantial Damage:** Damage of any origin sustained by a structure during any one year period whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50% of the market value of the structure before the damage occurred.

**Substantial Improvement:** Any repair, reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50% of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include either: (1) any project or improvement of a structure to correct existing violations of State or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or (2) any alteration of a historic structure, provided that the alteration will not preclude the structure's continued designation as an historic structure.

**Violation:** The establishment, creation, expansion, alteration, occupation or maintenance of any use, land development activity, or structure, including but not limited to signs and buildings, that is inconsistent with any provision of this Ordinance or any order, approval, or authorization issued pursuant to this Ordinance.

**Watercourse:** A lake, river, creek, stream, wash, channel or other topographic feature on or over which waters flow at least periodically. Watercourse includes specifically designated areas in which substantial flood damage may occur.

**Water-Dependent Structure:** A structure which cannot be used for its intended purpose unless it is located in close proximity to water, such as a docking or port facility necessary for the loading and unloading of cargo or passengers, shipbuilding, or ship repair. The term does not include long-term storage, manufacture, sales, or service facilities.

**Water Surface Elevation (WSE):** When used in reference to Sec. 8.4, Floodplain and Flood Damage Protection Standards, the height, in relation to mean sea level, of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

### **Section 3**

That the Unified Development Ordinance may be renumbered as necessary to accommodate these changes.

### **Section 4**

That Chapter 6, Articles 1-6, Flood Damage Protection Ordinance, of the City of Durham Code of Ordinances (Ordinance #10728) and Chapter 16, Article II, Flood Damage Protection Ordinance, of the Durham County Code of Ordinances, and all other

ordinances in conflict with this amendment to the Unified Development Ordinance be repealed.

**Section 5**

That this amendment to the Unified Development Ordinance shall become effective upon adoption.